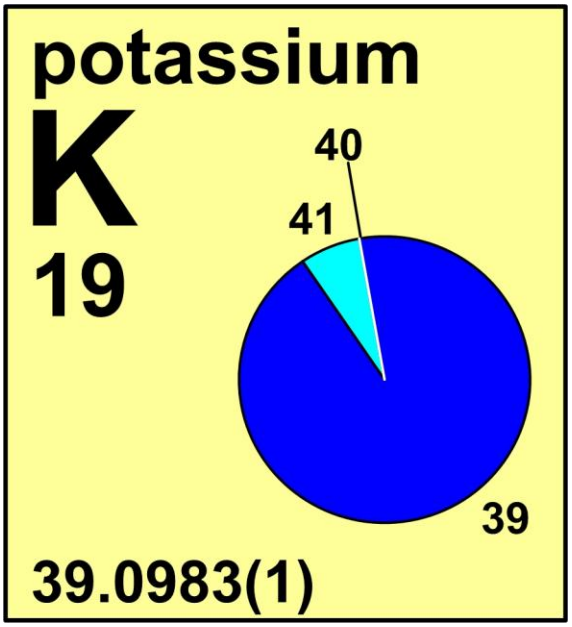
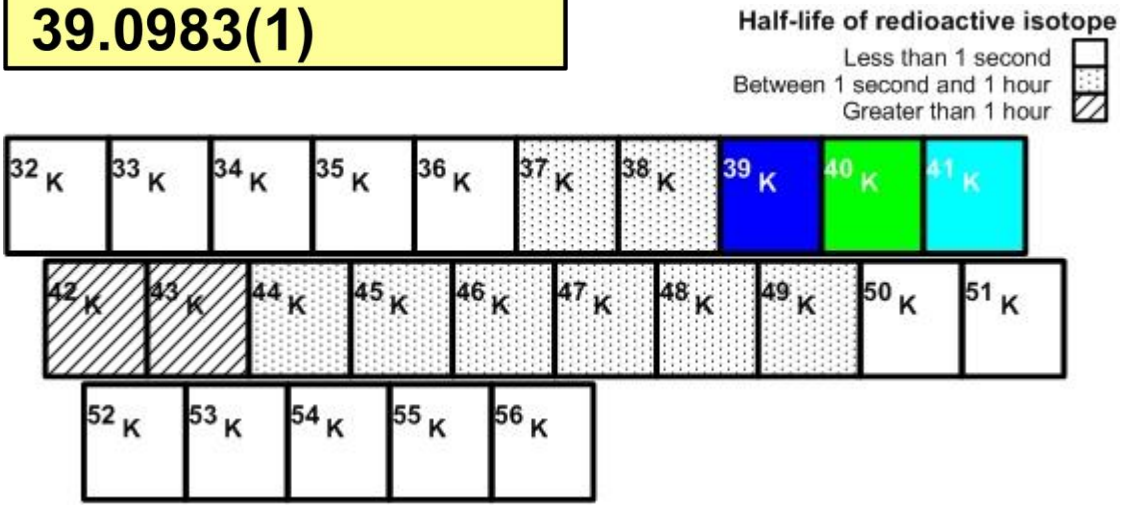
potassium



Stable isotope	Atomic mass*	Mole fraction
^{39}K	38.963 706 68	0.932 581
^{40}K	39.963 998 48	0.000 117
^{41}K	40.961 825 76	0.067 302

* Atomic mass given in unified atomic mass units, u.



Important applications of stable and/or radioactive isotopes

Isotopes in geochemistry

1) ^{40}K/^{40}Ar measurements are used in the potassium-argon dating method on materials in geochemistry.

Figure 1: This is a picture of a mass spectrometer used for $^{40}K/^{40}Ar$ dating. Potassium-Argon dating is a method that can be used to determine the age on materials such as rocks and volcanic emitted minerals as well as clay materials between thousands and billion years old. The way potassium-argon dating works is that as the isotopes decay, the number of parent isotopes, ^{40}K, present in the sampled material will be less than the number of daughter isotopes, ^{40}Ar.

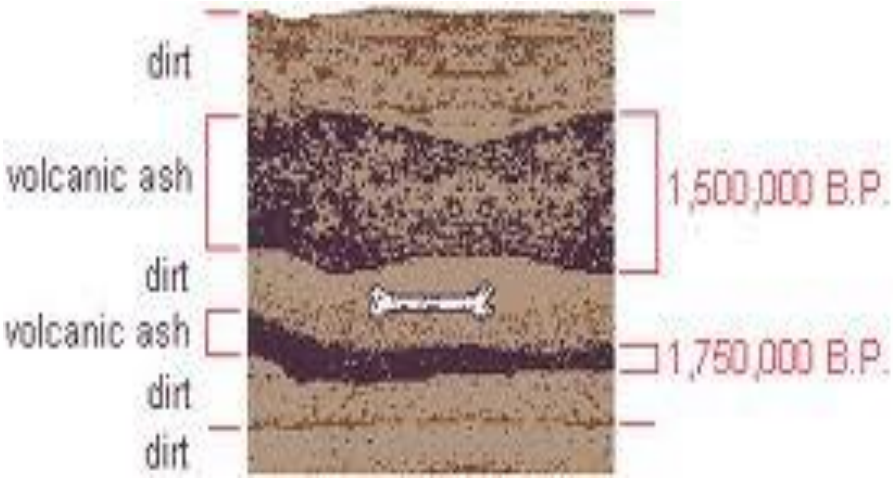


Figure 2: This is a picture of a potential site where a sample can be obtained to undergo potassium-argon dating.